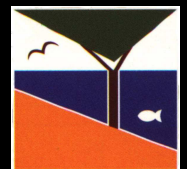


Biodiversity Conservation in Egypt (Achievements of a Decade and Future Priorities)



Prof. Moustafa M. Fouda
Director, Nature Conservation Sector
Egyptian Environmental Affairs Agency



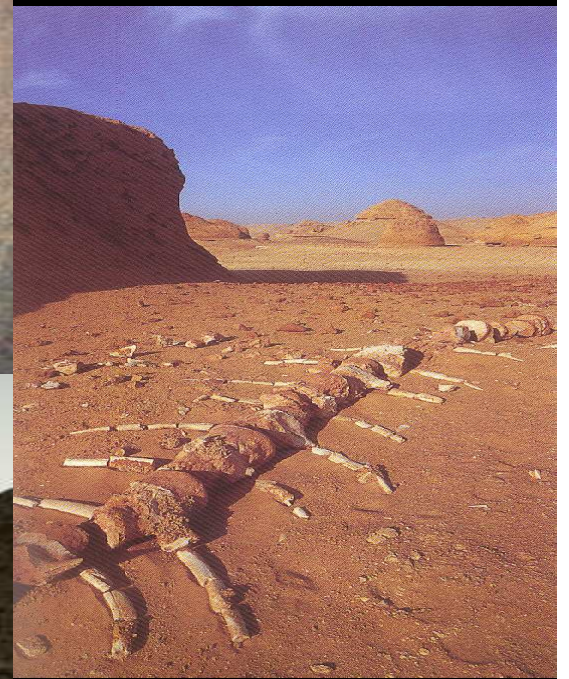
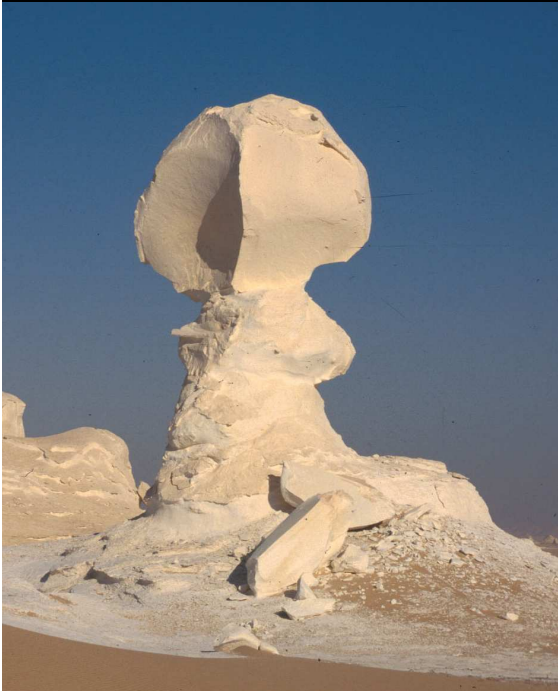
Since ancient times Egypt has relied on her wealth of natural resources to sustain its civilization



The country possesses a wide range of habitats and species



Egypt has many other heritage resources of value to all mankind





Birds







Coral Reefs



Marine Invertebrates





Fishes





Turtles & Marine Mammals



Terrestrial Mammals





Mangrove



Wetlands









Cultural Heritage



The Framework for PAs in Egypt

Biodiversity Conservation Strategy and Action Plan

GUIDING PRINCIPLES:

- Management of natural resources should be founded –
on scientific basis.
- Development of national capabilities in the fields of –
biodiversity conservation .a
- National resources must be mobilized to conserve –
biodiversity.
- Participation of all in biodiversity conservation action, –
and in enjoying equitable shares of its benefits.
- Instruments and incentives that support conservation –
and sustainable use of natural resources to be
encouraged.
- National actions should complement regional and –
international plans.

Biodiversity Conservation Strategy and Action Plan

PRIORITIES FOR ACTION:

- Institutional Development & Capacity Building •
- Protected Area Establishment & Management •
- Biodiversity Inventory & Monitoring •
- Public Awareness, Education & Participation •
- Wetland, Marine & Coastal Management •
- Arid Lands Management •
- Ecotourism: Management & Development •
- Hunting Management •

NCS Objectives

- Maintain the nation's biological diversity and ecological viability,
- Protect the nation's most outstanding natural heritage features,
- Optimise sustainable socio-economic return from the nation's natural systems,
- Promote public understanding and appreciation of Egypt's natural heritage,
- Maintain options for future generations: the intergenerational equity.

Legislation

- Law 53 / 1966 (Law of Agriculture)
- Law 102 / 1983 (Law of Protected Area)
- Law 124 / 1983 (Law of Fishing)
- Law 4 / 1994 (Law of the Environment)

Conventions & Agreements

- CBD •
- Ramsar •
- CITES •
- CMS •
- AEWA •
- Red Sea Convention •
- MAP •

Funded projects

- GEF (wetlands, Medicinal plants and GMO)
- Italian Cooperation (Wadi El Rayan, White Desert, Elba, BIOMAP, Capacity building)
- EU (South Sinai)
- US AID (Red Sea)

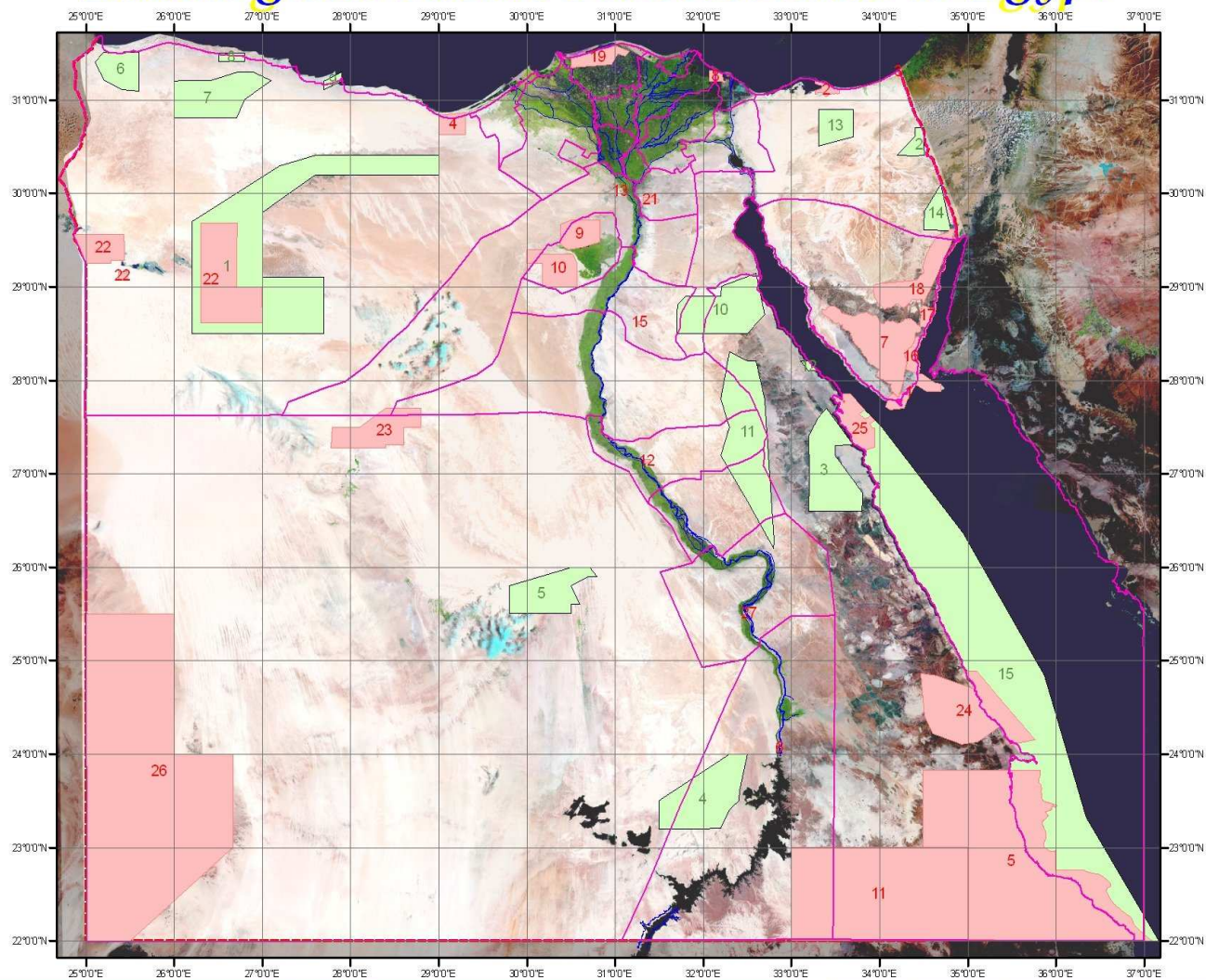
Protected Areas

Egypt's most important and effective tool to date for Egypt to conserve its biodiversity and fulfill its international commitments



- A network of 27 protected areas covering 15 % of the country
- System plan developed
- At least 15 more PAs to be declared in the future
- Most habitats & landscapes are represented
- Many important archaeological sites present
- Many traditional cultures present

Existing and Future Protectorates in Egypt



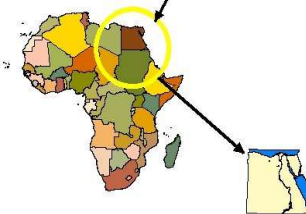
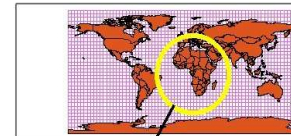
Existing Protectorates

- | | | |
|------------------------------------|------------------------------------|---------------------------------|
| (1) Ras Mohamed National Park | (10) Wadi El Rayan Protectorate | (19) Lake Burullus Protectorate |
| (2) Zamnik Protectorate | (11) Wadi Alaqi Protectorate | (20) Nile Islands Protectorates |
| (3) Almrsh Protectorate | (12) Wadi El Assuti Protectorate | (21) Wadi Digla Protectorate |
| (4) El Omayed Protectorate | (13) El Hassana Dome Protectorate | (22) Siwa |
| (5) Elba National Park | (14) Petrified Forest Protectorate | (23) White Desert |
| (6) Saluga and Ghazal Protectorate | (15) Sannur Cave Protectorate | (24) Wadi El-Gemal/Hamata |
| (7) St. Katherine National Park | (16) Nabaq Protec | (25) Red Sea Northern Islands |
| (8) Aslittim El Gamil Protectorate | (17) Abu Galum Protectorate | (26) El Gulf El Kebeer |
| (9) Lake Qarun Protectorate | (18) Tabn Protectorate | (27) El-Dababya |

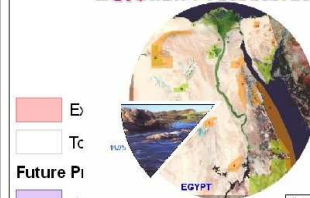
Future Protectorates

- | | |
|------------------------|---------------------------|
| (1) Qattara Depression | (10) Galala El-Qeblyya |
| (2) Quseima | (11) Wadi Qena |
| (3) Shayeb El-Bannat | (12) Mallahet Ras Shukeir |
| (4) Kurkur & Dimgul | (13) Maghara |
| (5) Um El-Dabadib | (14) Wadi Gerafi |
| (6) Salloum | (15) Red Sea |
| (7) El-Qasar | |
| (8) El-Showela | |
| (9) Ras El-Hekma | |

Egyptian Protectorates



Egyptian Protectorates



Legend

- E Existing Protectorate
- F Future Protectorate
- Tc Egypt Governorates
- B Egypt Border
- River Nile

Projection : UTM
 Base map :
 Scale : 1:2 000 000
 Date :
 Raster Information:
 Sensor : Landsat ETM
 Date : 2000
 Resolution : 30m
 Band Combination : 7,4,2

Ministry of State for Environmental Affairs
 Egyptian Environmental Affairs Agency
 Nature Conservation Sector
 National Biodiversity Department

The map processing and plotting was performed by GIS and remote sensing team through the Biodiversity Department (NBD) - Nature Conservation Sector (NCS). All right reserved. No part of this publication may be reported, stored, adopted, or transmitted in any form or by any means, without written permission of Biodiversity Department (NBD) - Nature Conservation Sector (NCS) - Egyptian Environmental Affairs Agency (EEAA).

Ras Mohammed National Park

World renowned coral reefs fringing the South Sinai coast



St Katherine Protectorate

World Heritage Site and biodiversity hotspot in the mountains of South Sinai



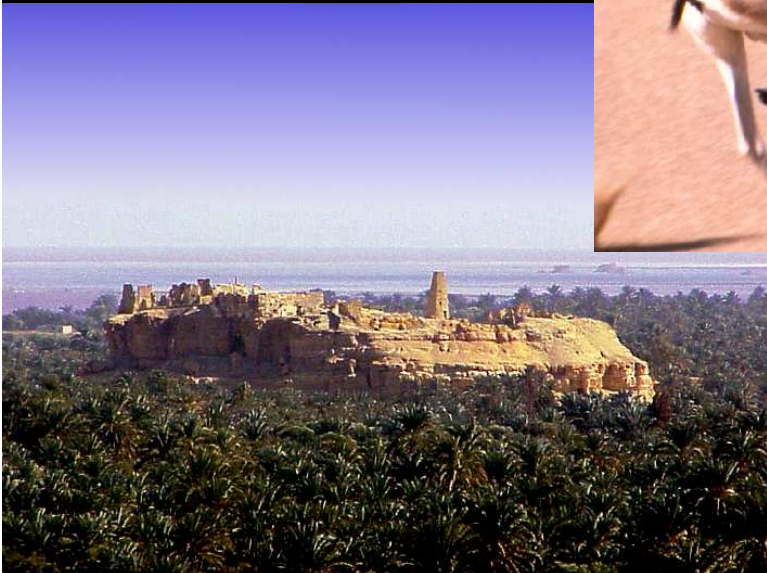
Lake Burullus Protected Area

Lagoon listed as a Ramsar Site on the
Delta Mediterranean Coast



Siwa Protected Area

Unique desert environments, antiquities and communities of the northern Western Desert



Wadi El Rayan Protected Area

Important wetlands for wintering waterbirds
and fossil deposits in the Western Desert



Wadi El Gemal Protected Area

Reefs, islands, mangroves and deserts environments in the southern Red Sea



Elba Protected Area

Biodiversity hotspots in the southern Eastern Desert and Red Sea



Management Issues

Hunting Management



Invasive Species



Procambarus clarkii
Photo courtesy of:
Division of Aquatic Resources



Coastal Development



Tourism Impacts



Habitat Degradation



Solid Waste



Management Resources

Staff

- The Ranger: A new career in Egypt
- Over 600 staff
- Training provided
- Higher education opportunities
- Community guards



Infrastructure

- Visitor centers and facilities in 15 PAs
- Ecolodge development
- Sharm El Sheikh Training Center



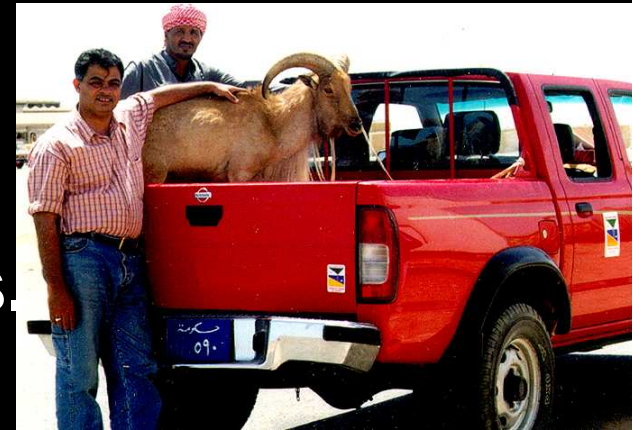
- Ranger housing.
- Outpost units.
- Research facilities.
- Equipment.



Management Tools

Patrolling & Enforcement

- Patrolling.
- Legal action.
- Annual hunting regulations.
- CITES implementation.
- Cooperation with other agencies.

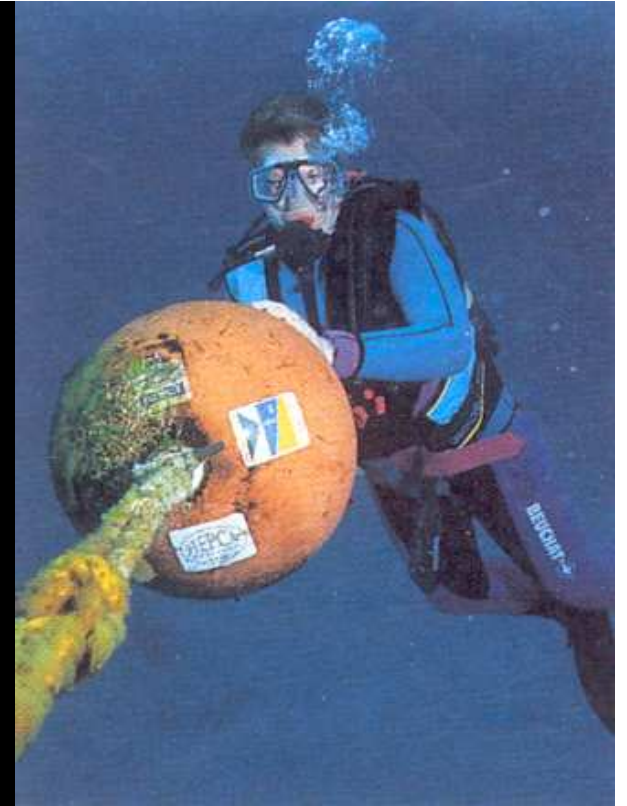


EIA Review



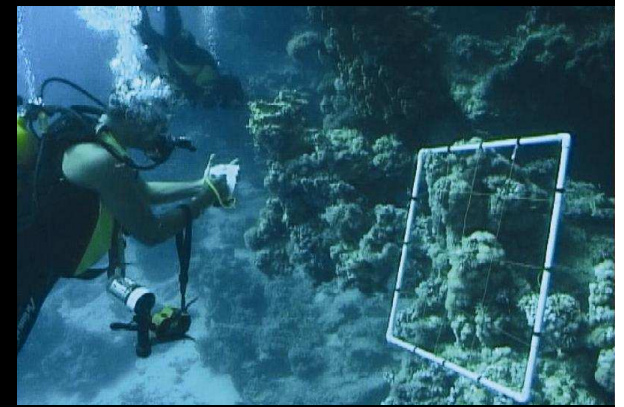
Mooring

- About 1200 installations
- 50% in Hurghada area



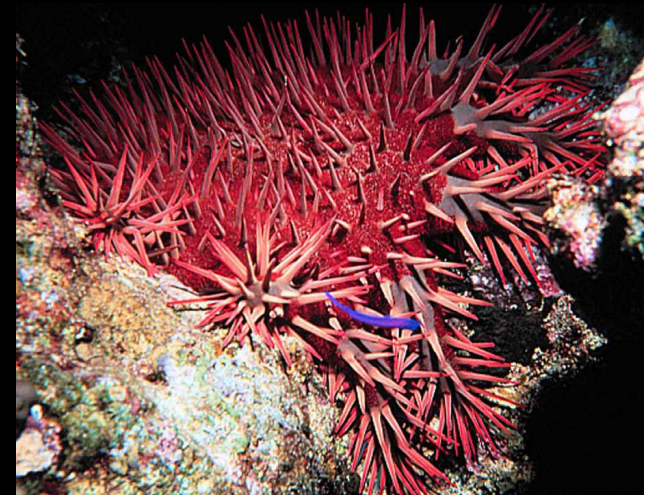
Monitoring & Research

- **Wildlife monitoring**
(e.g. Camera traps, bird ringing, turtle).
- **Habitat monitoring and assessment**
(e.g. Mangroves, coral reefs).
- **Resource damage assessment**
(e.g. Crown of thorn, impacts of diving).



Restoration

- Combating Crown of Thorn
- Mangrove rehabilitation
- Beach cleanup
- Solid waste removal



Modern Technology Use

- GIS.
- Satellite imagery.
- NBU data base.
- Digital image library.
- GPS.
- Radio telemetry.



Local Community Involvement

- Handicraft projects (St Katherine & Zaranik).
- Medical care services.
- Community guards: an important link with local communities.
- Veterinary services.
- Community development aid.



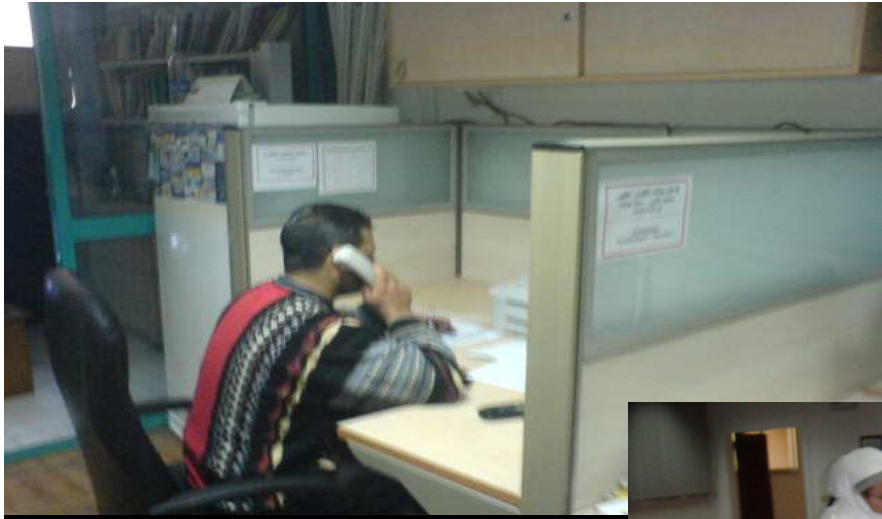
Ex Situ Conservation





Avian Flu





Ecotourism Strategy

- Establish Egypt as a world class ecotourism destination
- Ensure the conservation of Egypt's natural heritage as the cornerstone for the ecotourism industry



- **Establish an equilibrium between tourism development needs and natural resource conservation fundamentals**
- **Encouragement of tourism patterns which do not degrade the resource base**
- **Enhancement of the environmental management of tourism activities**



- Establish procedures for environmental monitoring and evaluation of tourism activities
- Support ecotourism through enforcement of relevant legislation
- Promote the use of “clean technologies”



- Enhance public and corporate awareness and understanding of ecotourism
- Promote cooperation and networking amongst stakeholders
- Maximize benefit to indigenous people from tourism



Cultural challenges

- Egypt has one of the richest cultural heritages in the world spanning the entire human history
- Archaeological sites of various ages, types and sizes are scattered throughout the entire Egyptian landscape
- Unprecedented development pressures are exposing many archaeological resources, particularly small and unstudied sites to increasing risk of loss and degradation

Cultural challenges

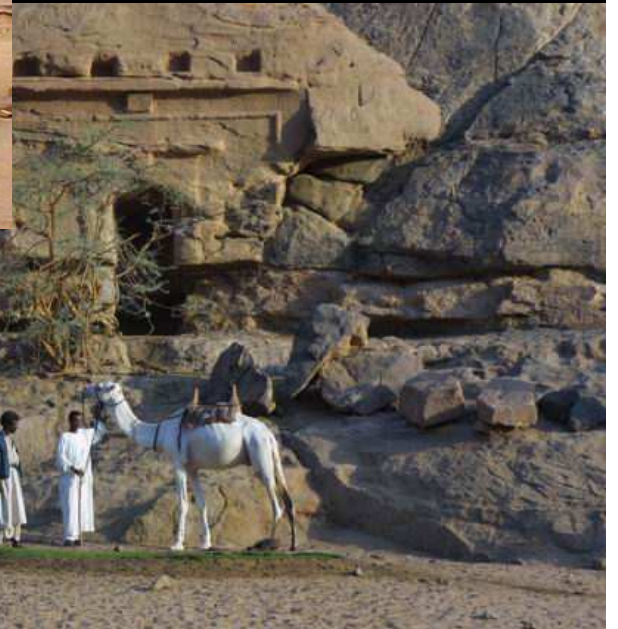
- Loss of cultural identity and diversity
- How to incorporate new technologies, so that traditional values are maintained and enhanced
- Technology transfer: The power to decide what is acceptable to adopt and what to reject

Cultural Heritage in Egypt's PAs

- Prehistoric sites and signs



- Pharaonic, Ptolemaic sites (Siwa, Qarun, ..)



- Roman (Ashtum, Siwa, Zaranik, Wadi El Gemal..)



- Christian (St Katherine, Elba, Zaranik)



- Islamic (St Katherine, Elba, Zaranik, ..)



- Cultural diversity



Cultural Heritage in Egypt's PAs

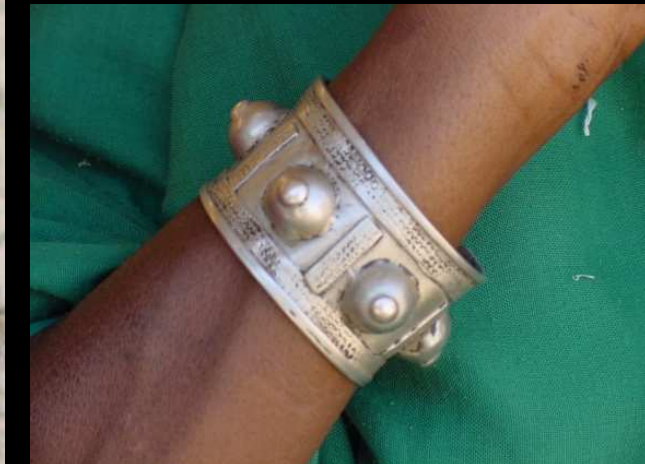
- Local dialects
- At least three languages spoken other than Arabic: Berber (Siwa), Bishari (Elba) and Nubian (Nubia)



■ Handcrafts



- Traditional fashions



- Folklore (e.g. song and dance)



- Traditional knowledge (e.g. medicinal plants)



■ Architecture



- Traditional tools



- Traditional customs



- Traditional livelihoods



Role of PAs in preserving cultural heritage

- Help protect cultural sites from degradation, particularly small and dispersed sites
- Preserve cultural landscapes
- Preserve indigenous knowledge and traditions
- Promote equitable benefit sharing from traditional knowledge



- Handcrafts support projects



■ Traditional fashions adaptations



Role of PAs in preserving cultural heritage

- Cooperation with the Supreme Council for Antiquities
- Medicinal plants project (traditional knowledge)
- MedWet project (documentation of cultural values of wetlands)
- Local community involvement in PA mgmt.
- Development of ecotourism in PAs

Main Components of BioMAP

- monitoring of biodiversity
- recording, mapping & assessment of biodiversity
- dissemination of information about biodiversity
- Internet Biodiversity Portal (CHM)
- Red Listing of Egyptian fauna & flora
- minor: National Natural History Museum of Egypt

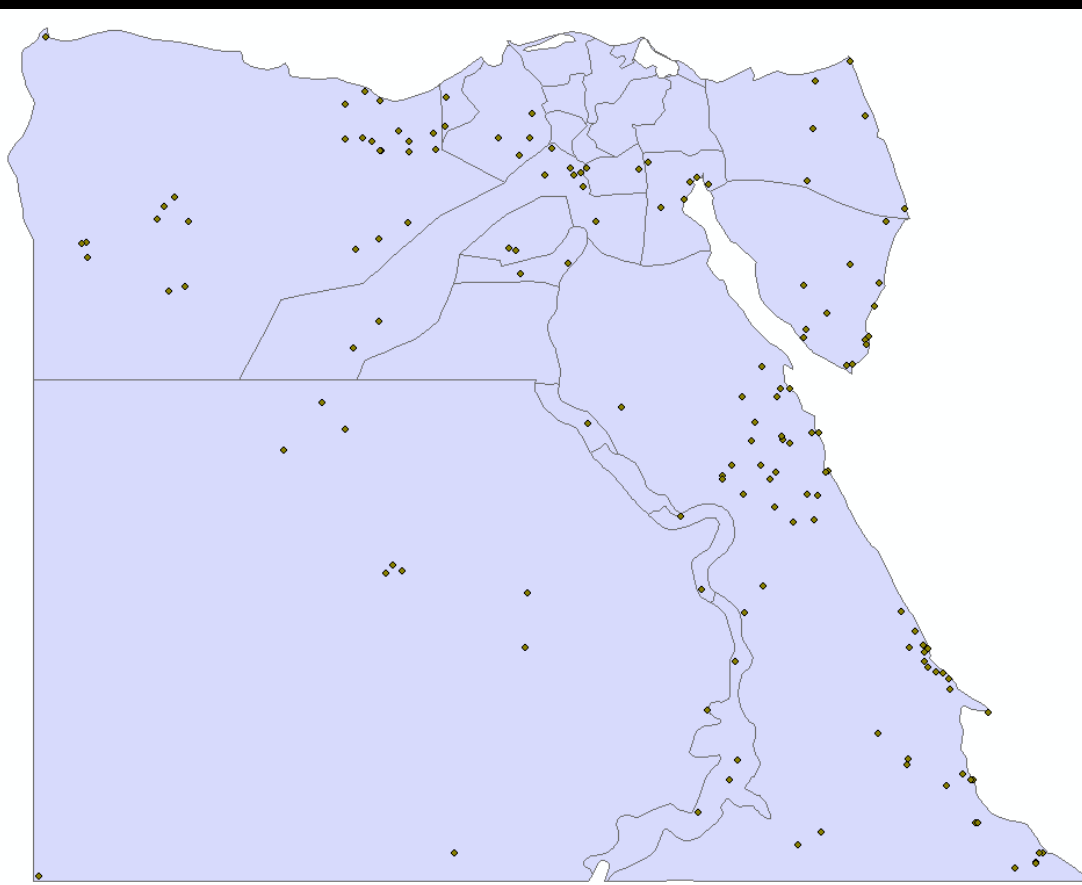


The Egyptian National Biodiversity Database



- distribution map for each species

Gazella dorcas Linnaeus 1758 (Dorcas Gazelle)

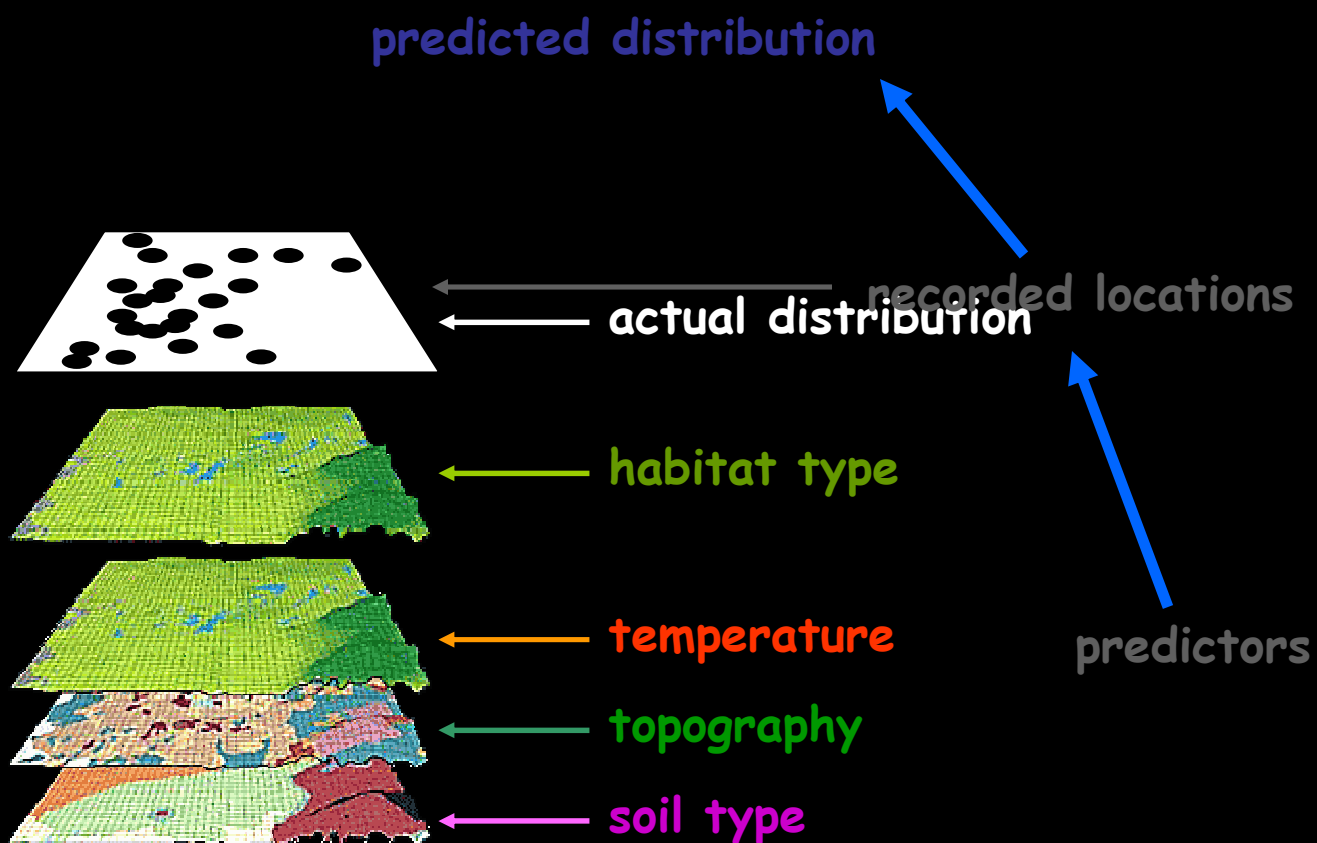




The Egyptian National Biodiversity Database

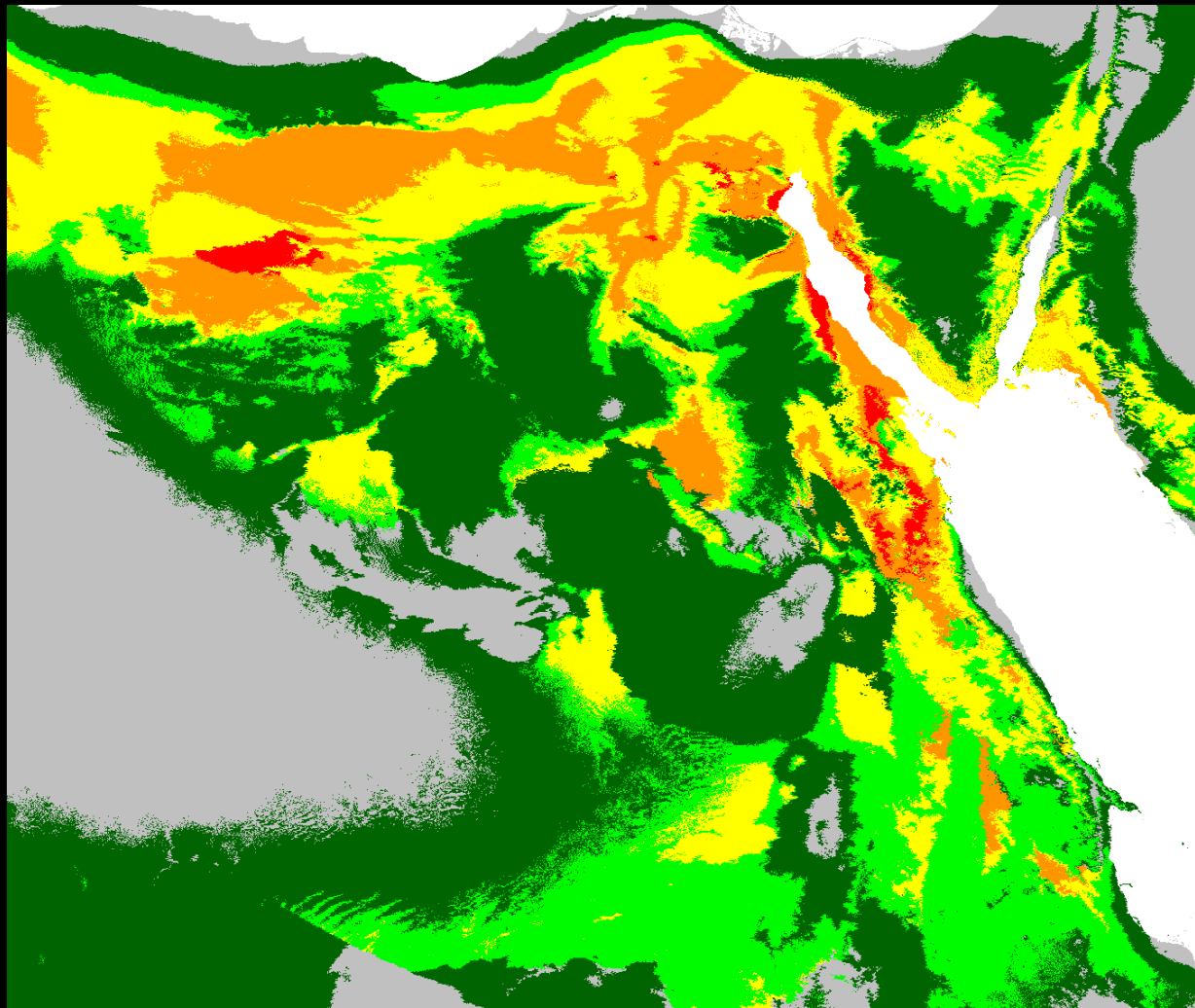


• predicting distributions





Predicting distributions



partially
compensates
for less than
perfect data



Egypt's Biodiversity - Service Pack 3 Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Home Mail Messenger My Yahoo! Answers

Address <H:\BiodiversitySite\index.html> Go Links

Y! Web Search Bookmarks Settings Messenger Mail My Yahoo! Answers

Egypt's Biodiversity + Add Tab



Egypt's Biodiversity

- عربي
- Biodiversity
- Habitats & flag species
- Wildlife
- Eco-tourism & protectorates
- Indigenous people
- Conservation



Egypt has been endowed with a unique variety of ecosystems and a corresponding variety of wildlife that ranges from Eurasian species to purely sub-Saharan species. Because of its generally dry hot climate and arid terrain much of the fauna and flora is desert adapted and often hard to find, so the visitor may be excused for thinking that the desert is deserted! This is very far from the case. The country's location at the north-east corner of Africa makes it a land bridge between Africa and Eurasia with the result that since the dawn of time it has been crossed and recrossed by migratory people. Inevitably many of the migrants stayed giving Egypt one of the most diverse populations in Africa.

Along the Mediterranean coasts are the Awlad Ali, Arabs who originated in the Arabian Peninsula. The Hamitic, Bishariin and Ababda live in the southern portion of the Eastern Desert; The people of the Siwa are Berbers. There are many more.

start BBB BiodiversitySite Spain Egypt's Biodiversity - ... My Computer EN 12:49 PM



Ministry of State For Environmental Affairs
Nature Conservation Sector



Home

CBD

- About the CBD
- The Convention text
- The Convention structure
- Meetings
- CBD FAQ
- Other Biodiversity conventions

Egypt's Biodiversity

- What is biodiversity?
- Importance of Biodiversity
- Egypt's Biodiversity
- Ecosystems and Habitats
- Species
- National Genetic Resources
- Protected Areas Network
- Relevant Websites

Egypt's implementation

- National Biodiversity Action Plan
- CBD National reports
- CBD Thematic Programmes
- CBD Cross-cutting issues
- Biodiversity related legislation
- Other Biodiversity conventions
- Biodiversity projects
- Presentations
- Case studies
- Biosafety Clearing House report
- Egyptian Expertise [Soon]
- Egypt's Biodiversity profile



Egyptian

Biodiversity CHM

Lessons Learnt

Lessons Learnt

- Political support is essential
- Showing potential economic benefit is important
- If necessary: “Protect now and study later”
- Building consensus is vital
- Local community involvement is critical for long term success
- PAs are the most effective conservation tool

Lessons Learnt

- Dedicated well trained staff
- Self financing
- Economic benefit to the wider community is a must
- Protected areas are an effective regional planning tool
- Expert opinion is valuable
- Early avoidance of conflicts

Lessons Learnt

- Adaptive Management and Flexibility
- Not all protected areas are equal
- Establishing models
- Selecting the appropriate staff is crucial
- Partnerships are key for sustainable management
- Successful participatory and precautionary approaches

Future Priorities

Based on :

- Biodiversity strategy and action plan (2017).
- Emerging issues (invasive species, GMOs, mainstreaming biodiversity, 2010 biodiversity target).
- Millennium Development Goals.
- Egypt's commitment to international / regional conventions / agreements.
- Egypt's social / economic / environments needs.

A- Development / management of PAs.

B- Biodiversity Monitoring.

C- Supporting Measures for biodiversity.

A- Development / management of PAs

- Improve PAs system plan.
- Effectiveness evaluation as indicator for biodiversity targets.
- Local community development.
- Improve infrastructure.
- Declare more PAs.
- Recruit/ train staff.
- Self – financing of PA.
- PAs economics.
 - GEF project.
 - Ecotourism.
 - Medical plants.
 - Ecosystem services / products.
- Captive breeding of endangered species.
- Natural History Museum

B- Biodiversity Monitoring

- Biodiversity challenge in :
 - Data availability.
 - Information needs.
 - monitoring changes (indices)
- Biomap of Egypt:
 - trends in biodiversity.
 - Red data book (to measure progress towards 2010 target)
- Indicators for biological invasion
- Biosafety implementation (GMOs)

C- Supporting Measures

- Nature Conservation (Separate Agency)
- Wildlife law.
- Biosafety law.
- Partnership with civil society / local communities.
- Funded projects.
- CEPA.
- International / Regional obligations.



THANK YOU